REMARKS

This paper is being presented in response to an official action dated May 27, 2005.

Entry of new claims 24-26, entry of the amendments to claim 16, reconsideration of the rejected claims, and allowance of all pending claims 1-17 and 24-26 are respectfully requested in view of the following remarks.

Brief Summary of the Amendments

Amendments to the Claims

Claim 16 has been amended to recite a free chlorine sensor, support being found in the original specification at page 8, line 30, to page 9, line 6, for example.

New claims 24-26 are presented, and find support in the original specification at Figure 2 and the accompanying written description, for example.

By the foregoing amendments, six claims are being canceled and three claims are being newly-added. One independent claim is being canceled and one independent claim is being newly-added. No new matter has been added and the amendments do not require an additional search.

Claims 1-17 and 24-26 (20 total; 6 independent) are now pending, and no fee is believed to be due.

A check in the amount of $510 is enclosed to cover the requisite fee under 37 C.F.R. §§ 1.17(a) and 1.136(a) for an extension of time for reply within the third month (small entity). The Commissioner is hereby authorized to charge any deficiency in connection with this Amendment, or any additional fees which may be required in connection with this Amendment, to Deposit Account No. 13-2855 under order number 30506/39552. A copy of this Amendment is enclosed.

The 35 U.S.C. § 112, ¶ 2, Rejection is Moot

Claim 17 has been rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite.

In view of the amendment to claim 16, it is respectfully submitted that claim 17 is sufficiently definite under § 112, ¶ 2, such that the rejection, upon reconsideration, should be withdrawn.

The 35 U.S.C. § 102(b) Rejection is Traversed

Claims 1, 8, and 10 stand rejected under 35 U.S.C. § 102(b) as anticipated by International Patent Application Publication Number WO 99/46587 (WO '587).

Proper Basis for a § 102(b) Rejection

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Thus, an anticipation determination necessarily must involve two analytical steps. First, the claim language must be interpreted, providing the broadest reasonable construction to the various claim terms consistent with the specification. Second, the claims, so construed/interpreted, must be compared to the prior art reference and factual findings must be made that "each and every limitation is found either expressly or inherently in [that] single prior art reference." *See Celeritas Techs. Ltd. v. Rockwell Int'l Corp.*, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998). Additionally, "[t]he identical invention must be shown in as complete detail as is contained in the patent claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The § 102(b) Rejection Is Traversed

It is respectfully submitted that the pending claims are not anticipated by WO '587.

Claim 1 recites an ion-selective sensor. The official action states that WO '587 discloses an ion-selective sensor at page 6, lines 16-18. However, this section of WO '587 states, "Known sensors are currently being used to measure various properties of a liquid sample such as dissolved oxygen, pH, temperature, and Chlorine and Ammonia levels." WO '587 does not disclose the use of ion-selective sensors. The reference in WO '587 to measurement of chlorine and ammonia does not necessarily require the use of an ion selective sensor, because such compounds can be measured by other sensors, such as oxidation-reduction-potential sensors and potentiometric sensors, respectively.

Further regarding claims 1, 8, and 10, WO '587 does not disclose the specifically-claimed combinations of sensors, but instead simply states that sensors are currently being used to measure various properties, such as those listed.

Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

The 35 U.S.C. § 103(a) Rejection is Traversed

All claims 1-17 stand rejected under 35 U.S.C. § 103(a) as obvious over various combinations of references including Glass et al. U.S. Patent No. 5,120,421, Rosen et al. U.S. Patent Application Publication No. 2003/0111424, Conover et al. U.S. Patent No. 4,713,165, Williams U.S. Patent No. 5,460,710, Benco et al. U.S. Patent No. 5,554,272, Chang et al. U.S. Patent No. 5,795,996, and optionally Japanese Patent Application Publication No. JP 09-329577.

Proper Basis for a § 103(a) Rejection

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of a plurality of references. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the applicants' own disclosure. *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991); *see also* M.P.E.P. § 2143 (8th ed. (Rev. 1) February 2003).

The Patent Office bears the burden of establishing a *prima facie* case of obviousness and "can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To support a conclusion that a claimed combination is obvious, either (a) the references must expressly or impliedly suggest the claimed combination to one of ordinary skill in the art, or (b) the Patent Office must present a convincing line of reasoning as to why a person of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). It is "incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 USPQ2d 1461, 1462 (Bd. Pat. App. & Inter. 1990) (citing *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick*, 221 USPQ 481, 485 (Fed. Cir. 1984)).

No *Prima Facie* Case of Obviousness Has Been Made
and, therefore, the § 103(a) Rejection is Traversed

The references, in proper combination, do not teach or suggest all of the elements recited in the claims. Thus, no *prima facie* case of obviousness has been made in the instant action, and none exists based on the combination of the applied references. Accordingly, reconsideration and withdrawal of the § 103(a) rejection are respectfully requested.

Claims 1, 2, 11, and 12 stand rejected as obvious by Glass et al. U.S. Patent No. 5,120,421 in view of Rosen et al. U.S. Patent Application Publication No. 2003/0111424.

Claim 1 recites a sensory apparatus, comprising a substrate, which comprises a plurality of sensors to obtain an analyte profile. The sensors include an ion-selective sensor capable of measuring ion content and a chlorine sensor capable of measuring chlorine content. The official action cites Glass, but acknowledges that Glass does not disclose a chlorine sensor. The official action then cites Rosen for a chlorine sensor and states that it would be obvious to combine a chlorine sensor in the apparatus of Glass, presumably by using the chlorine sensor of Rosen. The rejection is traversed.

Rosen discloses the use of multiple separate and independent sensors for measuring various parameters (see paragraphs 0054-0062). The chlorine sensor of Rosen is disclosed at paragraph 0060 as being a Model CL17 Chlorine Analyzer from Hach Company. This device is understood to be a large, stand-alone device that measures chlorine based on colorimetry. See the accompanying printout from the distributor's web site, cited herewith on form PTO-1449. A practitioner of ordinary skill in the art would not look to combine the chlorine sensor of Rosen with the substrate-based microelectrode-array device of Glass at least because: (1) adding colorimetric sensing to the Glass device would alter a principle of its operation (*i.e.*, the device of Glass makes measurements based on microelectrode arrays, not colorimetry), and (2) because the large size of the Rosen device would defeat an objective of the Glass device, which is to provide a portable, hand-held detector system with necessary electronics and a disposable microelectrode array detector (col. 3, lines 42-47).

Furthermore dependent claim 2 recites an apparatus further comprising an analyzer that corrects the chlorine sensor measurement based on the analyte profile. The official action rejects this claim on grounds that, "Absent evidence to the contrary, the analyzer of Glass is interpreted as being capable of correcting an analyte measurement based on the analyte profile." This is not the correct legal standard. To properly reject a claim, each and

every feature must be disclosed in a single reference or a proper combination of references. Here, Glass contains no such disclosure, and the Patent Office cannot properly "assume" that the Glass apparatus provides the feature recited in claim 2.

Regarding claim 12, the official action alleges that Glass discloses a lead frame having a plurality of sides and comprising an opening through which the sensors are exposed for use. The official action cites to Figure 2, element 150, and Figures "5, 6B or 6D"). It is respectfully sumbitted that the apparatus described in Glass does not include a lead frame comprising an opening through which the sensors are exposed for use. As described at column 7, lines 10-20, the microelectrodes 184 are deposited on the wafer 182, and the upper surfaces of the microelectrodes 184 are exposed to the environment. Element 150 is shown in Figure 2 as rectangular in shape, apparently for contact with the tabs 188 shown in the recessed area of the wafer 182 in Figure 5. It is not apparent where in the Glass reference the Patent Office perceives a lead frame having an opening. In the absence of additional information, withdrawal of the rejection is requested.

Dependent claims 3 and 4, and independent claims 13 and 14 stand rejected as obvious by the combination of Glass and Rosen as applied to claim 1, and further in view of Conover. The rejections are based on the combination of Glass and Rosen and is traversed for the same reasons provided above with respect to claim 1.

Dependent claims 5 and 6 stand rejected as obvious by Glass and Rosen as applied to claim 1, and further in view of Williams. The rejections are traversed for the same reasons provided above with respect to claim 1 and for the additional reason provided below.

Williams discloses a planar sensor (e.g., Figs. 1-3 therein) that includes a groove 12 along which the sensor device needs to be physically broken before use to expose a fresh edge 26 of an electrode to a solution (*i.e.*, a portion 28 is physically broken off to expose the fresh edge 26 of the electrode). Thus, it is apparent that the Williams sensor is intended to be handled in a vigorous manner prior to use. In contrast the substrate containing the microelectrode array electrodes described at col. 8, line 3 - col. 9, line 65 of Glass (see also Figs. 4 and 5) is clearly not designed to permit breaking off a portion of the substrate prior to a measurement. To do so would reasonably be expected by one of ordinary skill in the art to lead to device failure. Thus, there would be no reasonable expectation of success in the suggested hypothetical modification in the official action.

Dependent claims 7-9 stand rejected as obvious by Glass and Rosen as applied to claim 1 and further in view of Conover, Benco, and optionally JP 09-329577. The rejections are based on the combination of Glass and Rosen and are traversed for the same reasons provided above with respect to claim 1.

Dependent claim 10 stands rejected as obvious by Glass and Rosen as applied to claim 1 and further in view of Chang. The rejection is based on the combination of Glass and Rosen and is traversed for the same reasons provided above with respect to claim 1.

Independent claim 15 stands rejected as obvious by Glass in view of Rosen and Williams. The rejection is based on the combination of Glass and Rosen and is traversed for the same reasons provided above with respect to claim 1.

Independent claim 16 stands rejected as obvious by Glass in view of Rosen, Williams, Conover and Benco. The rejection is based on the combination of Glass and Rosen and is traversed for the same reasons provided above with respect to claim 1.

Given these shortcomings, it is respectfully submitted that the claimed apparatus are unobvious. Accordingly, reconsideration and withdrawal of the rejections are requested.

CONCLUSION

In the absence of more pertinent prior art, withdrawal of the rejections and allowance of all pending claims are respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, the examiner is urged to telephone the undersigned attorney at the indicated number.

Respectfully submitted,

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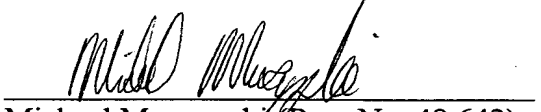
November 23, 2005 By 

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